ESTUARINE COASTAL AND SHELF SCIENCE

Volume 21
1985

ACADEMIC PRESS
London Orlando San Diego
New York Austin Boston
Sydney Tokyo

Published by Academic Press Inc. (London) Limited in association with the Estuarine and Brackish-water Sciences Association

ISSN 0272-7714

Copyright © 1985, by Academic Press Inc. (London) Limited

ALL RIGHTS RESERVED

No part of this volume may be reproduced in any form, by photostat, microfilm, or any other means, without prior permission from the publishers.

Printed in Great Britain

Contents of Volume 21

Number 1, July 1985

Helz, G. R., Sinex, S. A., Ferri, K. L. and Nichols, M., Processes controlling Fe, Mn and Zn in sediments of northern Chesapeake Bay 1

Walters, R. A. and Gartner, J. W., Subtidal sea level and current variations in the northern reach of San Francisco Bay 17

Van de Kreeke, J., Stability of tidal inlets—Pass Cavallo, Texas 33

Jordan, T. E. and Correll, D. L., Nutrient chemistry and hydrology of interstitial water in brackish tidal marshes of Chesapeake Bay 45

Cheng, R. T. and Gartner, J. W., Harmonic analysis of tides and tidal currents in South San Francisco Bay, California 57

Curtis, D. J., Galbraith, C. G., Smyth, J. C. and Thompson, D. B. A., Seasonal variations in prey selection by estuarine black-headed gulls (*Larus ridibundus*) . 75

McLachlan, A., Eliot, I. G. and Clarke, D. J., Water filtration through reflective microtidal beaches and shallows sublittoral sands and its implications for an inshore ecosystem in Western Australia 91

Watson, P. G., Frickers, P. E. and Goodchild, C. M., Spatial and seasonal variations in the chemistry of sediment interstitial waters in the Tamar estuary . . 105

Hydes, D. J., The use of a microcomputer for data acquisition and reduction from a continuous flow analysis system for use at sea. 121

Hydes, D. J. and Hill, N. C., Determination of nitrate in seawater: nitrate to nitrite reduction with copper-cadmium alloy 127

Number 2, August 1985

Shaw, D. G., Hogan, T. E. and McIntosh, D. J., Hydrocarbons in the sediments of Port Valdez, Alaska: consequences of five years' permitted discharge 131

Kimmerer, W. J. and McKinnon, A. D., A comparative study of the zooplankton in two adjacent embayments, Port Phillip and Westernport Bays, Australia . . 145

Wilmot, W., Toll, P. and Kjerfve, B., Nutrient transports in a Swedish estuary . 161

AUBREY, D. G. and SPEER, P. E., A study of non-linear tidal propagation in shallow inlet/estuarine systems Part I: Observations. 185

SPEER, P. E. and AUBREY, D. G., A study of non-linear tidal propagation in shallow inlet/estuarine systems Part II: Theory 207

SMITH, C. J. and DELAUNE, R. D., Recovery of added ^{15}N-labelled ammonium-N from Louisiana Gulf Coast estuarine sediment 225

VERLENCAR, X. N. and QASIM, S. Z., Particulate organic matter in the coastal and estuarine waters of Goa and its relationship with phytoplankton production . . 235

KASPAR, H. F., ASHER, R. A. and BOYER, I. C., Microbial nitrogen transformations in sediments and inorganic nitrogen fluxes across the sediment/water interface on the South Island West Coast, New Zealand 245

GUNN, D. J. and YENIGUN, O., Estimation of dispersion in estuaries by a self-consistent method 257

WHITING, G. J., MCKELLAR, H. N. JR., KJERFVE, B. and SPURRIER, J. D., Sampling and computational design of nutrient flux from a south-eastern U.S. saltmarsh . 273

FLEISCHACK, P. C., DE FREITAS, A. J. and JACKSON, R. B., Two apparatuses for sampling benthic fauna in surf zones 287

NUMBER 3, SEPTEMBER 1985

PRUELL, R. J. and QUINN, J. G., Geochemistry of organic contaminants in Narragansett Bay sediments 295

READ, G. H. L., Factors affecting the distribution and abundance of *Macrobrachium petersi* (Hilgendorf) in the Keiskamma River and estuary, South Africa. . . . 313

KROM, M. D. and BENNETT, J. T., Sources, deposition rates and decomposition of organic carbon in recent sediment of Sachem Head Harbor, Long Island Sound. 325

GUNN, D. J. and YENIGUN, O., Modelling of tidal motion in shoaling waters: the estuary of Milford Haven 337

OFFICER, C. B., LYNCH, D. R., KEMP, W. M. and BOYNTON, W. R., Estimation of benthic respiration parameters from field data 357

BRODEUR, R. D., GADOMSKI, D. M., PEARCY, W. G., BATCHELDER, H. P. and MILLER, C. B., Abundance and distribution of ichthyoplankton in the upwelling zone off Oregon during anomalous El Niño conditions 365

NICHOLS, F. H., Increased benthic grazing: an alternative explanation for low phytoplankton biomass in northern San Francisco Bay during the 1976–1977 drought 379

AGOSTA, K., The effect of tidally induced changes in the creekbank water table on pore water chemistry 389

MARANDA, L., ANDERSON, D. M. and SHIMIZU, Y., Comparison of toxicity between populations of *Gonyaulax tamarensis* of eastern North American waters . . . 401

VIEIRA, M. E. C., Estimates of subtidal volume flux in Mid-Chesapeake Bay. . . 411

GEE, J. M., WARWICK, R. M., DAVEY, J. T. and GEORGE, C. L., Field experiments on the role of epibenthic predators in determining prey densities in an estuarine mudflat. 429

NUMBER 4, OCTOBER 1985

HONG, H. and KESTER, D. R., Chemical forms of iron in the Connecticut River estuary 449

TORO, J. E., Annual cycle and composition of the phytoplankton in the Quempillen River estuary, Southern Chile 461

MCKAY, W. A. and BAXTER, M. S., Water transport from the North-east Irish Sea to western Scottish waters: further observations from time-trend matching of sellafield radiocaesium 471

KUZMIĆ, M., ORLIĆ, M., KARABEG, M. and JEFTIĆ, L., An investigation of wind-driven topographically controlled motions in the Northern Adriatic 481

READ, G. H. L., Aspects of larval, post-larval and juvenile ecology of *Macrobrachium petersi* (Hilgendorf) in the Keiskamma estuary, South Africa 501

QUINN, N. J. and KOJIS, B. L., Annual variation in the nocturnal nekton assemblage of a tropical estuary 511

STEIMLE, F. W., Jr., Biomass and estimated productivity of the benthic macrofauna in the New York Bight: a stressed coastal area 539

SUNILA, I. and LINDSTROM, R., Survival, growth and shell deformities of copper- and cadmium-exposed mussels (*Mytilus endulis* L.) in brackish water 555

HUBER, A. L., GABRIELSON, J. O. and KIDBY, D. K., Phosphatase activities in the waters of a shallow estuary, Western Australia 567

KENNETT, D. M. and HARGREAVES, P. E., Benthic diatoms and sulfide fluctuations: Upper basin of Pettaquamscutt River, Rhode Island 577

MCLACHLAN, A., The biomass of macro- and interstitial fauna on clean and wrack-covered beaches in Western Australia 587

NOTES AND DISCUSSIONS
DE SOUZA, F. P. and DALAL, V. N. K., A study of bromide in the Mandovi-Zuari River system of Goa 601

NUMBER 5, NOVEMBER 1985

DE JONGE, V. N., The occurrence of 'epipsammic' diatom populations: a result of interaction between physical sorting of sediment and certain properties of diatom species 607

SMITH, N. P., The decomposition and stimulation of the longitudinal circulation in a coastal lagoon 623

VAN DER SLOOT, H. A., HOEDE, D., WIJKSTRA, J., DUINKER, J. C. and NOTLING, R. F., Anionic species of V, As, Se, Mo, Sb, Te and W in the Scheldt and Rhine estuaries and the Southern Bight (North Sea) 633

FILARDO, M. J. and DUNSTAN, W. M., Hydrodynamic control of phytoplankton in low salinity waters of the James River estuary, Virginia, U.S.A. 653

RAINBOW, P. S., Accumulation of Zn, Cu and Cd by crabs and barnacles 669

MURRAY, S. P. and YOUNG, M., The nearshore current along a high-rainfall, trade-wind coast—Nicaragua 687

HADŽIJA, O., JURAČIĆ, M., LUIĆ, M., TONKOVIĆ, M. and JERIČEVIĆ, B., The carbohydrates in relation to mineralogic and granulometric composition of surface sediments in the Karst estuary (River Krka estuary, Yugoslavia) 701

PENNOCK, J. R., Chlorophyll distributions in the Delaware estuary: regulation by light-limitation 711

DOLAN, T. J. and DEAN, R. G., Multiple longshore sand bars in the upper Chesapeake Bay 727

PHILLIPS, F. E. and FLEEGER, J. W., Meiofauna meso-scale variability in two estuarine habitats 745

NUMBER 6, DECEMBER 1985

CHALMERS, A. G., WIEGERT, R. G. and WOLF, P. L., Carbon balance in a salt marsh: interactions of diffusive export, tidal deposition and rainfall-caused erosion . . 757

GRIFFITHS, G. A. and GLASBY, G. P., Input of river-derived sediment to the New Zealand continental shelf: I. Mass 773

JOHANNES, R. E. and HEARN, C. J., The effect of submarine groundwater discharge on nutrient and salinity regimes in a coastal lagoon off Perth, Western Australia . 789

EDENBORN, H. M., PAQUIN, Y. and CHATEAUNEUF, G., Bacterial contribution to manganese oxidation in a deep coastal sediment 801

VOLTOLINA, D., BROWN, L. N. and ROBINSON, M. G., Vertical variations of the chlorophyll maximum during a red tide in a shallow lagoon 817

ANTONY, M. K., MURTY, C. S., REDDY, G. V. and RAO, K. H., Sub-surface temperature oscillations and associated flow in the western bay of Bengal . . . 823

DEAN, T. A., The temporal and spatial distribution of underwater quantum irradiation in a Southern California kelp forest. 835

POXTON, M. G. and NASIR, N. A., The distribution and population dynamics of O-group plaice (*Pleuronectes platessa* L.) on nursery grounds in the Firth of Forth 845

BAKER, E. T., FEELY, R. A., LANDRY, M. R. and LAMB, M., Temporal variations in the concentration and settling flux of carbon and phytoplankton pigments in a deep fjordlike estuary 859

FRILIGOS, N., Turnover time of waters in a deep basin in the Aegean Sea 879

NEL, S. A., POTTER, I. C. and LONERAGAN, N. R., The biology of the catfish *Cnidoglanis macrocephalus* (Plotosidae) in an Australian estuary 895

Digitized by the Internet Archive
in 2026

https://archive.org/details/estuarine-coastal-and-shelf-science_1985_21_index-contents

Index to Volume 21

Note: The subject index is based upon the keywords allocated to each paper. The keywords are rotated in order so that each one appears once as the first index term. The complete list of permitted keywords is published in *Estuarine, Coastal and Shelf Science* **20**(1), i–xl.

Abundance; biomass; Chile Coast; phytoplankton; estuaries; variation, 461
Abundance; cage culture; mud flats; predation; gobies; crabs; macrofauna; meiofauna, 429
Abundance; distribution; bays; Copepoda; Branchiopoda; Australia South Coast; zooplankton; community composition, 145
Abundance; environmental conditions; upwelling; Oregon Coast; ichthyoplankton; distribution, 365
Adriatic Sea; numerical model; sea-level changes; currents; models, 481
Adsorption; St. Lawrence Estuary; bacteriological oxidation; sediments; manganese, 801
AGOSTA, K., The effect of tidally induced changes in the creekbank water table on pore water chemistry, 389
Alaska Coast; fjords; hydrocarbons; petroleum; pollutant dispersal; sediments, 131
Ammonia; Louisiana; nitrogen; estuarine sedimentation, 225
Analysis; automatic techniques; computer program; seawater; nutrients, 121
Analysis; automatic techniques; seawater; nitrates; cadmium, 127
ANDERSON, D. M., *see* MIRANDA, L., 401
Antimony; tellurium; vanadium; estuaries; seawater; North Sea; arsenic tungsten; selenium; molybdenum; 633
ANTONY, M. K., MURTY, C. S., REDDY, G. V. and RAO, K. H., Sub-surface temperature oscillations and associated flow in the western Bay of Bengal, 823
Arsenic; tungsten; selenium; molybdenum; antimony; tellurium; vanadium; estuaries; seawater; North Sea, 633
ASHER, R. A., *see* KASPAR, H. F., 243
AUBREY, D. G. and SPEER, P. E., A study of non-linear tidal propagation in shallow inlet/estuarine systems. Part I: Observations, 185
AUBREY, D. G., *see* SPEER, P. E., 207
AUSTRALIA; enzymes; phosphorus; estuaries; diurnal; seasonal, 567
Australia coast; sandy beaches; biomass, 587
Australia South Coast; zooplankton; community composition; abundance; distribution; bays; Copepoda; Branchiopoda, 145
Australia West Coast; teleosts; catfish; estuaries growth rates; gonads; diet; estuarine fisheries, 895
Automatic techniques; computer program; seawater; nutrients; analysis, 121
Automatic techniques; seawater; nitrates; cadmium; analysis, 127
Bacteriological oxidation; sediments; manganese; adsorption; St. Lawrence Estuary, 801
BAKER, E. T., FEELY, R. A., LANDRY, M. R. and LAMB, M., Temporal variations in the concentration and settling flux of carbon and phytoplankton pigments in a deep fjordlike estuary, 859
Baltic Sea; nutrients; current measurements; estuaries; time series, 161
Barnacles; metal uptake; zinc; copper; cadmium; crabs, 669
Barrier Island Coasts; Texas Coast; tidal inlets; morphology; equilibrium profiles, 33
BATCHELDER, H. P., *see* BRODEUR, R. D., 365
BAXTER, M. S., *see* MCKAY, W. A., 471
Bay of Bengal; temperature variations; coastal currents; internal waves; shear; Richardson number; stratification; continental shelf, 823
Bays; Copepoda; Branchiopoda; Australia South Coast; zooplankton; community composition; abundance; distribution, 145
Beach profiles; breaking waves; sand bars; longshore bar; Chesapeake Bay; Maryland; littoral processes; coastal geomorphology, 727
Beaches; dredges; sampler/bottom fauna; macrobenthos; surf zone, 287
Behaviour; energy; benthic; Invertebrate; tidal flats; Scotland; birds; seasonal variations, 75
Behaviour; rivers; India Coast; bromide, 601

BENNETT, J. T., *see* KROM, M. D., 325
Benthic; diatoms; currents; exposure; sediments; sorting; waves; Ems estuary, 607
Benthic; Invertebrate; tidal flats; Scotland; birds; seasonal variations; behaviour; energy, 75
Benthic; sublittoral flora; standing crops; Narragansett Bay; diatoms, 577
Benthic; environment; Chesapeake Bay; respiration rates; respiratory systems; microbial activity, 357
Benthic fauna; biomass; secondary production; waste disposal; food webs; New York Bight, 539
Benthos; filter feeders; phytoplankton; estuarine fauna; estuaries; river flow; San Francisco Bay; grazing, 379
Biomass; Australia coast; sandy beaches, 587
Biomass; Chile Coast; phytoplankton; estuaries; variation; abundance, 461
Biomass; productivity; river flow; salinity; mortality; Chesapeake Bay; Virginia; phytoplankton, 653
Biomass; secondary production; waste disposal; food webs; New York Bight; benthic fauna, 539
Birds; seasonal variations; behaviour; energy; benthic; Invertebrata; tidal flats; Scotland, 75
BOYER, I. C., *see* KASPAR, H. F., 243
BOYNTON, W. R., *see* OFFICER, C. B., 357
Branchiopoda; Australia South Coast; zooplankton; community composition; abundance; distribution; bays; Copepoda, 145
Breaking waves; sand bars; longshore bar; Chesapeake Bay; Maryland; littoral processes; coastal geomorphology; beach profiles, 727
BRODEUR, R. D., GADOMSKI, D. M., PEARCY, W. G., BATCHELDER, H. P. and MILLER, C. B., Abundance and distribution of ichthyoplankton in the upwelling zone off Oregon during anomalous El Niño conditions, 365
Bromide; behaviour; rivers; India Coast, 601
BROWN, L. N., *see* VOLTOLINA, D., 817
Cadmium; analysis; automatic techniques; seawater; nitrates, 127
Cadmium; crabs; barnacles; metal uptake; zinc; copper, 669
Cadmium; *Mytilus*; Gulf of Finland; shells; survival; growth; copper, 555
Cage culture; mud flats; predation; gobies; crabs; macrofauna; meiofauna; abundance, 429
California; harmonic analysis; tides; tidal currents; Eulerian residual currents; current-meter; San Francisco Bay, 57
California Coast; irradiance; kelp, 835
Canada east coast; red tide; toxicity; dinoflagellates; cysts; shellfish fisheries; U.S.A. east coast, 401
Carbohydrates; Yugoslavia Coast; estuarine sedimentation; physical properties; chemical composition, 701
Carbon; salt marshes; deposition; erosion; exports; *Spartina*, 757
Carbon; sediment sources; isotopes; fossils; plankton; Connecticut coast, 325
Catfish; estuaries; growth rates; gonads; diet; estuarine fisheries; Australia West Coast; teleosts, 895
CHALMERS, A. G., WIGGERT, R. G. and WOLF, P. L., Carbon balance in a salt marsh: interactions of diffusive export, tidal deposition and rainfall-caused erosion, 757
CHATEAUNEUF, G., *see* EDENBORN, H. M., 801
Chemical; models; Connecticut Coast; iron; distribution; speciation; estuaries, 449
Chemical composition; carbohydrates; Yugoslavia Coast; estuarine sedimentation; physical properties, 701
Chemical composition; estuaries; spatial distribution; seasonal variations; storage effects; English coast; interstitial waters, 105
CHENG, R. T. and GARTNER, J. W., Harmonic analysis of tides and tidal currents in South San Francisco Bay, California, 57
Chesapeake Bay; Maryland; littoral processes; coastal geomorphology; beach profiles; breaking waves; sand bars; longshore bar, 727
Chesapeake Bay; non-tidal circulations; fluid volumes; flow profiles; vertical profile; current data; current velocity; oscillations, 411
Chesapeake Bay; respiration rates; respiratory system; microbial activity; benthic environment, 357

Chesapeake Bay; salt marshes; interstitial water; nutrients; sulfur cycles; hydrology; wetlands, 45
Chesapeake Bay; Virginia; phytoplankton; biomass; productivity; river flow; salinity; mortality, 653
Chile Coast; phytoplankton; estuaries; variation; abundance; biomass, 461
Chlorophyll distribution; phytoplankton; partially mixed estuary; estuarine circulation; turbidity; eutrophication; Delaware Bay, 711
Chlorophylls; seasonal variations; coastal waters; estuarine zones; particulate matter, 235
Chronology; Narragansett Bay; contaminants; petroleum; hydrocarbons; sediments, 295
CLARKE, D. J., *see* MCLACHLAN, A., 91
Coastal currents; internal waves; shear; Richardson number; stratification; continental shelf; Bay of Bengal; temperature variations, 823
Coastal geomorphology; beach profiles; breaking waves; sand bars; longshore bar; Chesapeake Bay; Maryland; littoral processes, 727
Coastal lagoon; Vancouver Island; red tide; dinoflagellates; vertical migrations, 817
Coastal lagoons; numerical models; tidal currents; wind stress; current measurements; simulations; wind drift currents, 623
Coastal waters; estuarine zones; particulate matter; chlorophylls; seasonal variations, 235
Coastal waters; frontal zones; lagoons; nutrients; macroalgae; sea grasses; salinity variations; groundwater, 789
Community composition; abundance; distribution; bays; Copepoda; Branchiopoda; Australia South Coast; zooplankton, 145
Computer program; seawater; nutrients; analysis; automatic techniques, 121
Connecticut Coast; carbon; sediment sources; isotopes; fossils; plankton, 325
Connecticut Coast; iron; distribution; speciation; estuaries; chemical; models, 449
Contaminants; petroleum; hydrocarbons; sediments; chronology; Narragansett Bay, 295
Continental shelf; Bay of Bengal; temperature variations; coastal currents; internal waves; shear; Richardson number; stratification, 823
Continental shelf; New Zealand; sediments; rivers, 773
Copepoda; Branchiopoda; Australia South Coast; zooplankton; community composition; abundance; distribution; bays, 145
Copper; cadmium; crabs; barnacles; metal uptake; zinc, 669
Copper; cadmium; *Mytilus*; Gulf of Finland; shells; survival; growth, 555
CORRELL, D. L., *see* JORDAN, T. E., 45
Crabs; barnacles; metal uptake; zinc; copper; cadmium, 669
Crabs; macrofauna; meiofauna; abundance; cage culture; mud flats; predation; gobies, 429
Current data; current velocity; oscillations; Chesapeake Bay; non-tidal circulations; fluid volumes; flow profile; vertical profiles, 411
Current measurements; estuaries; time series; Baltic Sea; nutrients, 161
Current measurements; horizontal currents; mathematical models; numerical analysis; Milford Haven Estuary; estuarine circulation, 337
Current measurements; simulations; wind drift currents; coastal lagoons; numerical models; tidal currents; wind stress, 623
Current velocity; oscillations; Chesapeake Bay; non-tidal circulations; fluid volumes; flow profile; vertical profiles; current data, 411
Currents; estuarine circulation; subtidal variations; San Francisco Bay; estuaries; sea level, 17
Currents; exposure; sediments; sorting; waves; Ems estuary; benthic; diatoms, 607
Currents; Irish Sea; Scotland Coast; radioactivity; nuclear power plants, 471
Currents; models; Adriatic Sea; numerical model; sea-level changes, 481
Current-meter; San Francisco Bay; California; harmonic analysis; tidal currents; Eulerian residual currents, 57
CURTIS, D. J., GALBRAITH, C. G., SMYTH, J. C. and THOMPSON, D. B. A., Seasonal variations in prey selection by estuarine black-headed gulls (*Larus ridibundus*), 75
Cysts; shellfish fisheries; U.S.A. east coast; Canada east coast; red tide; toxicity; dinoflagellates, 401
DALAL, V. N. K., *see* DE SOUZA, F. P., 601
DAVEY, J. T., *see* GEE, J. M., 429

Dean, R. G., *see* Dolan, T. J., 727
Dean, T. A., The temporal and spatial distribution of underwater quantum irradiation in a southern California kelp forest, 835
Deeps; nutrients; renewal, 879
De Freitas, A. J., *see* Fleischack, P. C., 287
De Jonge, V. N., The occurrence of 'epipsammic' diatom populations: a result of interaction between physical sorting of sediment and certain properties of diatom species, 607
DeLaune, R. D., *see* Smith, C. J., 225
Delaware Bay; chlorophyll distribution; phytoplankton; partially mixed estuary; estuarine circulation; turbidity; eutrophication, 711
Denitrification; nitrate reduction; mineralization; diffusion; sediments; New Zealand; nitrogen cycle, 243
Deposition; erosion; exports; *Spartina*; carbon; salt marshes, 757
De Souza, F. P. and Dalal, V. N. K., A study of bromide in the Mandovi–Zuari River system of Goa, 601
Diagenesis; trace elements; iron; manganese; zinc; estuaries; sediment, 1
Diatom; benthic; sublittoral flora; standing crops; Narragansett Bay, 577
Diatoms; currents; exposure; sediments; sorting; waves; Ems estuary; benthic, 607
Diet; estuarine fisheries; Australia West Coast; teleosts; catfish; estuaries; growth rates; gonads, 895
Diffusion; sediments; New Zealand; nitrogen cycle; denitrification; nitrate reduction; mineralization, 243
Dinoflagellates; cysts; shellfish fisheries; U.S.A. east coast; Canada east coast; red tide; toxicity, 401
Dinoflagellates; vertical migrating; coastal lagoon; Vancouver Island; red tide, 817
Dispersion; estuaries; longitudinal dispersion; Milford Haven Estuary, 257
Distribution; abundance; environmental conditions; upwelling; Oregon Coast; ichthyoplankton, 365
Distribution; bays; Copepoda; Branchiopoda; Australia South Coast; zooplankton; community composition; abundance, 145
Distribution; speciation; estuaries; chemical; models; Connecticut Coast; iron, 449
Distribution; vertical migration; migration; South African Coast; larvae, 501
Diurnal; seasonal; Australia; enzymes; phosphorus; estuaries, 567
Dolan, T. J. and Dean, R. G., Multiple longshore sand bars in the upper Chesapeake Bay, 727
Dredges; sampler/bottom fauna; macrobenthos; surf zone; beaches, 287
Duinker, J. C., *see* Van Der Sloot, H. A., 633
Dunstan, W. M., *see* Filardo, M. J., 653
Dynamic balance; wind stress; friction; pressure gradients; Nicaragua; nearshore current system, 687
Edenborn, H. M., Paquin, Y. and Chateauneuf, G., Bacterial contribution to manganese oxidation in a deep coastal sediment, 801
Eliot, I. G., *see* McLachlan, A., 91
Ems estuary; benthic; diatoms; currents; exposure; sediments; sorting; waves, 607
Energy; benthic; Invertebrata; tidal flats; Scotland; birds; seasonal variations; behaviour, 75
English coast; interstitial water; chemical composition; estuaries; spatial distribution; seasonal variations; storage effects, 105
Environmental conditions; upwelling; Oregon Coast; ichthyoplankton; distribution; abundance, 365
Enzymes; phosphorus; estuaries; diurnal; seasonal; Australia, 567
Equilibrium profiles; Barrier Island Coasts; Texas Coast; tidal inlets; morphology, 33
Erosion; exports; *Spartina;* carbon; salt marshes; deposition, 757
Estuaries; chemical; models; Connecticut Coast; iron; distribution; speciation, 449
Estuaries; diurnal; seasonal; Australia; enzymes; phosphorus, 567
Estuaries; growth rates; gonads; diet; estuarine fisheries; Australia West Coast; teleosts; catfish, 895
Estuaries; longitudinal dispersion; Milford Haven Estuary; dispersion, 257

Estuaries; mudflats; spatial variations; meiobenthos, 745
Estuaries; river flow; San Francisco Bay; grazing; benthos; filter feeders; phytoplankton; estuarine fauna, 379
Estuaries; sea level, currents; estuarine circulation; subtidal variations; San Francisco Bay, 17
Estuaries; seawater; North Sea; arsenic; tungsten; selenium; molybdenum; antimony; tellurium; vanadium, 633
Estuaries; sediment; diagenesis; trace elements; iron; manganese; zinc, 1
Estuaries; South Africa Coast; prawns; freshwater; salinity; temperature; migration, 313
Estuaries; spatial distribution; seasonal variations; storage effects; English coast; interstitial water; chemical composition, 105
Estuaries; time series; Baltic Sea; nutrients; current measurements, 161
Estuaries; variation; abundance; biomass; Chile Coast; phytoplankton, 461
Estuarine circulation; current measurements; horizontal currents; mathematical models; numerical analysis; Milford Haven Estuary, 337
Estuarine circulation; subtidal variations; San Francisco Bay; estuaries; sea level; currents, 17
Estuarine circulation; turbidity; eutrophication; Delaware Bay; chlorophyll distribution; phytoplankton; partially mixed estuary, 711
Estuarine fauna; estuaries; river flow; San Francisco Bay; grazing; benthos; filter feeders; phytoplankton, 379
Estuarine fisheries; Australia West Coast; teleosts; catfish; estuaries; growth rates; gonads; diet, 895
Estuarine sedimentation; ammonia; Louisiana; nitrogen, 225
Estuarine sedimentation; physical properties; chemical composition; carbohydrates; Yugoslavia Coast, 701
Estuarine sedimentation; plankton blooms; primary production; settling rates; fjords; Puget Sound; sediment traps; particulate matter, 859
Estuarine zones; particulate matter; chlorophylls; seasonal variations; coastal waters, 235
Eulerian residual currents; current-meter; San Francisco Bay; California; harmonic analysis; tides; tidal currents, 57
Eutrophication; Delaware Bay; chlorophyll distribution; phytoplankton; partially mixed estuary; estuarine circulation; turbidity, 711
Exports; *spartina*; carbon; salt marshes; deposition; erosion, 757
Exposure; sediments; sorting; waves; Ems estuary; benthic; diatoms; currents, 607
Feely, R A., *see* Baker, E. T., 859
Ferri, K. L., *see* Helz, G. R., 1
Filardo, M. J. and Dunstan, W. M., Hydrodynamic control of phytoplankton in low salinity waters of the James River Estuary, Virginia, U.S.A., 653
Filter feeders; phytoplankton; estuarine fauna; estuaries; river flow; San Francisco Bay; grazing; benthos, 379
Filteration; nutrients; sand beaches; groundwater; waves, 91
Fish; water temperature; regression analysis; Papua New Guinea; oceanography; Fourier analysis; time-series; salinity, 511
Fish mortality; Scotland Coast; population dynamics; nursery grounds, 845
Fjords; hydrocarbons; petroleum; pollutant dispersal; sediments; Alaska Coast, 131
Fjords; Puget Sound; sediment traps; particulate matter; estuarine sedimentation; plankton blooms; primary production; settling rates, 859
Fleeger, J. W., *see* Phillips, F. E., 745
Fleischack, P. C., De Freitas, A. J. and Jackson, R. B., Two apparatuses for sampling benthic fauna in surf zones, 287
Flow profile; vertical profiles; current data; current velocity; oscillations; Chesapeake Bay; non-tidal circulations; fluid volumes, 411
Fluid volumes; flow profile; vertical profiles; current data; current velocity; oscillations; Chesapeake Bay; non-tidal circulations, 411
Food webs; New York Bight; benthic fauna; biomass; secondary production; waste disposal, 539
Fossils; plankton; Connecticut coast; carbon; sediment sources; isotopes, 325
Fourier analysis; time-series; salinity; fish; water temperature; regression analysis; Papua New Guinea; oceanography, 511

Freshwater; salinity; temperature; migration; estuaries; South Africa Coast; prawns, 313
FRICKERS, P.E., *see* WATSON, P. G., 105
Friction; pressure gradients; Nicaragua; nearshore current system; dynamic balance; wind stress, 687
FRILIGOS, N., Turnover time of waters in a deep basin in the Aegean Sea, 879
Frontal zones; lagoons; nutrients; macroalgae; sea grasses; salinity variations; groundwater; coastal waters, 789
GABRIELSON, J. D., *see* HUBER, A. L., 567
GADOMSKI, D. M., *see* BRODEUR, R. D., 365
GALBRAITH, C. G., *see* CURTIS, D. J., 75
GARTNER, J. W., *see* CHENG, R. T., 57
GARTNER, J. W., *see* WALTERS, R. A., 17
GEE, J. M., WARWICK, R. M., DAVEY, J. T. and GEORGE, C. L., Field experiments on the role of epibenthic predators in determining prey densities in an estuarine mudflat, 429
GEORGE, C. L., *see* GEE, J. M., 429
GLASBY, G. P., *see* GRIFFITHS, G. A., 773
Gobies; crabs; macrofauna; meiofauna; abundance; cage culture; mud flats; predation, 429
Gonads; diet; estuarine fisheries; Australia West Coast; teleosts; catfish; estuaries; growth rates, 895
GOODCHILD, C. M., *see* WATSON, P. G., 105
Grazing; benthos; filter feeders; phytoplankton; estuarine fauna; estuaries; river flow; San Francisco Bay, 379
GRIFFITHS, G. A. and GLASBY, G. P., Input of river-derived sediment to the New Zealand continental shelf: I. Mass, 773
Groundwater; coastal waters; frontal zones; lagoons; nutrients; macroalgae; sea grasses; salinity variations, 789
Groundwater; waves; filtration; nutrients; sand beaches, 91
Growth; copper; cadmium; *Mytilus;* Gulf of Finland; shells; survival, 555
Growth rates; gonads; diet; estuarine fisheries; Australia West Coast; teleosts; catfish; estuaries, 895
Gulf of Finland; shells; survival; growth; copper; cadmium; *Mytilus,* 555
GUNN, D. J. and YENIGÜN, O., Estimation of dispersion in estuaries by a self-consistent method, 257
GUNN, D. J. and YENIGÜN, O., Modelling of tidal motion in shoaling waters: the estuary of Milford Haven, 337
HADŽIJA, O., JURAČIĆ, M., LUIĆ, M., TONKOVIĆ, M. and JERIČEVIĆ, B., The carbohydrates in relation to mineralogic and granulometric composition of surface sediments in the Karst Estuary (River Krka Estuary, Yugoslavia), 701
HARGRAVES, P. E., *see* KENNETT, D. M., 577
Harmonic analysis; Massachusetts coast; tidal estuaries; tidal flats; tidal friction, 185
Harmonic analysis; tides; tidal currents; Eulerian residual currents; current-meter; San Francisco Bay; California, 57
Harmonic analysis; U.S.A. east coast; tidal estuaries; numerical model; non-linear equations; tidal flats; tidal friction, 207
HEARN, C. J., *see* JOHANNES, R. E., 789
HELZ, G. R., SINEX, S. A., FERRI, K. L. and NICHOLS, M., Processes controlling Fe, Mn and Zn in sediments of northern Chesapeake Bay, 1
HILL, N. C., *see* HYDES, D. J., 127
HOEDE, D., *see* VAN DER SLOOT, H. A., 633
Hogan, T. E., *see* SHAW, D. G., 131
HONG, H. and KESTER, D. R., Chemical forms of iron in the Connecticut River estuary, 449
Horizontal currents; mathematical models; numerical analysis; Milford Haven Estuary; estuarine circulation; current measurements, 337
HUBER, A. L., GABRIELSON, J. D. and KIDBY, D. K., Phosphatase activities in the waters of a shallow estuary, Western Australia, 567
HYDES, D. J., The use of a microcomputer for data acquisition and reduction from a continuous flow analysis system for use at sea, 121

Hydes, D. J. and Hill, N. C., Determination of nitrate in seawater: nitrate to nitrite reduction with copper-cadmium alloy, 127
Hydrocarbons; petroleum; pollutant dispersal; sediments; Alaska Coast; fjords, 131
Hydrology; wetlands; Chesapeake Bay; salt marshes; interstitial water; nutrients; sulfur cycles, 45
Ichthyoplankton; distribution; abundance; environmental conditions; upwelling; Oregon Coast, 365
India Coast; bromide; behaviour; rivers, 601
Internal waves; shear; Richardson number; stratification; continental shelf; Bay of Bengal; temperature variations; coastal currents, 823
Interstitial water; chemical composition; estuaries; spatial distribution; seasonal variations; storage effects; English coast, 105
Interstitial water; nutrients; sulfur cycles; hydrology; wetlands; Chesapeake Bay; salt marshes, 45
Interstitial water; water properties; salt marshes; Spartina; South Carolina Coast; water movement, 389
Invertebrata; tidal flats; Scotland; birds; seasonal variations; behaviour; energy; benthic, 75
Irish Sea; Scotland Coast; radioactivity; nuclear power plants; currents, 471
Iron; distribution speciation; estuaries; chemical; models; Connecticut Coast, 449
Iron; manganese; zinc; estuaries; sediment; diagenesis; trace elements, 1
Irradiance; kelp; California Coast, 835
Isotopes; fossils; plankton; Connecticut coast; carbon; sediment sources, 325
Jackson, R. B., *see* Fleischack, P. C., 287
Jeftíc, L., *see* Kuzmić, M., 481
Jerícević, B., *see* Hadžija, O., 701
Johannes, R. E. and Hearn, C. J., The effect of submarine groundwater discharge on nutrient and salinity regimes in a coastal lagoon off Perth, Western Australia, 789
Jordan, T. E. and Correll, D. L., Nutrient chemistry and hydrology of interstitial water in brackish tidal marshes of Chesapeake Bay, 45
Juračić, M., *see* Hadžija, D., 701
Karabeg, M., *see* Kuzmic, M., 481
Kaspar, H. F., Asher, R. A. and Boyer, I. C., Microbial nitrogen transformations in sediments and inorganic nitrogen fluxes across the sediment/water interface on the South Island West Coast, New Zealand, 243
Kelp; California Coast; irradiance, 835
Kemp, W. M., *see* Officer, C. B., 357
Kennett, D. M. and Hargraves, P. E., Benthic diatoms and sulfide fluctuations; upper basin of Pettaquamscutt River, Rhode Island, 577
Kester, D. R., *see* Hong, H., 449
Kidby, D. K., *see* Huber, A. L., 567
Kimmerer, W. J. and McKinnon, A. D., A comparative study of the zooplankton in two adjacent embayments, Port Phillip and Westernport Bays, Australia, 145
Kjerfve, B., *see* Whiting, G. J., 273
Kjerfve, B., *see* Wilmot, W., 161
Kojis, B. L., *see* Quinn, N. J., 511
Krom, M. D. and Bennett, J. T., Sources, deposition rates and decomposition of organic carbon in recent sediment of Sachem Harbor, Long Island Sound, 325
Kuzmić, M., Orlić, M., Karabeg, M. and Jeftić, L., An investigation of wind-driven topographically controlled motions in the Northern Adraitic, 481
Lagoons; nutrients; macroalgae; sea grasses; salinity variations; groundwater; coastal waters; frontal zones, 789
Lamb, M., *see* Baker, E. T., 859
Landry, M. R., *see* Baker, E. T., 859
Larvae; distribution; vertical migration; migration; South Africa Coast, 501
Lindström, R., *see* Sunila, I., 555
Littoral processes; coastal geomorphology; beach profiles; breaking waves; sand bars; longshore bar; Chesapeake Bay; Maryland, 727
Loneragan, N. R., *see* Nel, S. A., 895

Longitudinal dispersion; Milford Haven Estuary; dispersion; estuaries, 257
Longshore bar; Chesapeake Bay; Maryland; littoral processes; coastal geomorphology; beach profiles; breaking waves; sand bars, 727
Louisiana; nitrogen; estuarine sedimentation; ammonia, 225
Luíc, M., *see* Hadžija, O., 701
Lynch, D. R., *see* Officer, C. B., 357
McIntosh, D. J., *see* Shaw, D. G., 131
McKay, W. A. and Baxter, M. S., Water transport from the North-east Irish Sea to western Scottish coastal waters: further observations from time-trend matching of Sellafield radiocaesium, 471
McKellar, H. N., Jr., *see* Whiting, G. J., 273
McKinnon, A.D., *see* Kimmerer, W. J., 145
McLachlan, A., The biomass of macro- and interstitial fauna on clean and wrack-covered beaches in Western Australia, 587
McLachlan, A., Eliot, I. G. and Clarke, D. J., Water filtration through reflective microtidal beaches and shallow sublittoral sands and its implications for an inshore ecosystem in Western Australia, 91
Macroalgae; sea grasses; salinity variations; groundwater; coastal waters; frontal zones; lagoons; nutrients, 789
Macrobenthos; surf zone; beaches; dredges; sampler/bottom fauna, 287
Macrofauna; meiofauna; abundance; cage culture; mud flats; predation; gobies; crabs, 429
Manganese; adsorption; St. Lawrence Estuary; bacteriological oxidation; sediments, 801
Manganese; zinc; estuaries; sediment; diagenesis; trace elements; iron, 1
Maranda, L., Anderson, D. M. and Shimizu, Y., Comparisons of toxicity beween populations of *Gonyaulax tamarensis* of eastern North American waters, 401
Maryland; littoral processes; coastal geomorphology; beach profiles; breaking waves; sand bars; longshore bar; Chesapeake Bay, 727
Massachusetts coast; tidal estuaries; tidal flats; tidal friction; harmonic analysis, 185
Mathematical models; numerical analysis; Milford Haven Estuary; estuarine circulation; current measurements; horizontal currents, 337
Meiobenthos; estuaries; mudflats; spatial variations, 745
Meiofauna; abundance; cage culture; mud flats; predation; gobies; crabs; macrofauna, 429
Metal uptake; zinc; copper; cadmium; crabs; barnacles, 669
Microbial activity; benthic environment; Chesapeake Bay; respiration rates; respiratory systems, 357
Migration; estuaries; South Africa Coast; prawns; freshwater; salinity; temperature, 313
Migration; South Africa Coast; larvae; distribution; vertical migration, 501
Milford Haven Estuary; dispersion; estuaries; longitudinal dispersion, 257
Milford Haven Estuary; estuarine circulation; current measurements; horizontal currents; mathematical models; numerical analysis, 337
Miller, C. B., *see* Brodeur, R. D., 365
Mineralization; diffusion; sediments; New Zealand; nitrogen cycle; denitrification; nitrate reduction, 243
Models; Adriatic Sea; numerical model; sea-level changes; currents, 481
Models; Connecticut Coast; iron; distribution; speciation; estuaries; chemical, 449
Molybdenum; antimony; tellurium; vanadium; estuaries; seawater; North Sea; arsenic; tungsten; selenium, 633
Morphology; equilibrium profiles; Barrier Island Coasts; Texas Coast; tidal inlets, 33
Mortality; Chesapeake Bay; Virginia; phytoplankton; biomass; productivity; river flow; salinity, 653
Mud flats; predation; gobies; crabs; macrofauna; meiofauna; abundance; cage culture, 429
Mudflats; spatial variations; meiobenthos; estuaries, 745
Murray, S. P. and Young, M., The nearshore current along a high-rainfall, trade-wind coast—Nicaragua, 687
Murty, C. S., *see* Antony, M. K., 823
Mytilus; Gulf of Finland; shells; survival; growth; copper; cadmium, 555

Narragansett Bay; contaminents; petroleum; hydrocarbons; sediments; chronology, 295
Narragansett Bay; diatoms; benthic; sublittoral flora; standing crops, 577
NASIR, N. A., *see* POXTON, M. G., 845
Nearshore current system; dynamic balance; wind stress; friction; pressure gradients; Nicaragua, 687
NEL, S. A., POTTER, I. C. and LONERAGAN, N. R., The biology of the catfish *Cnidoglanis macrocephalus* (Plotosidae) in an Australian estuary, 895
New York Bight; benthic fauna; biomass; secondary production; waste disposal; food webs, 539
New Zealand; nitrogen cycle; denitrification; nitrate reduction; mineralization; diffusion; sediments, 243
New Zealand; sediments; rivers; continental shelf, 773
Nicaragua; nearshore current system; dynamic balance; wind stress; friction; pressure gradients, 687
NICHOLS, F. M., Increased benthic grazing: an alternative explanation for low phytoplankton biomass in northern San Francisco Bay during the 1976–77 drought, 379
NICHOLS, M., *see* HELZ, G. R., 1
Nitrate reduction; mineralization; diffusion; sediments; New Zealand; nitrogen cycle; denitrification, 243
Nitrates; cadmium; analysis; automatic techniques; seawater, 127
Nitrogen; estuarine sedimentation; ammonia; Louisiana, 225
Nitrogen cycle; denitrification; nitrate reduction; mineralization; diffusion; sediments; New Zealand, 243
NOLTING, R. F., *see* VAN DER SLOOT, H. A., 633
Non-linear equations; tidal flats; tidal friction; harmonic analysis; U.S.A. east coast; tidal estuaries; numerical model, 207
Non-tidal circulations; fluid volumes; flow profile; vertical profiles; current data; current velocity; oscillations; Chesapeake Bay, 411
North Sea; arsenic; tungsten; selenium; molybdenum; antimony; tellurium; vanadium; estuaries; seawater, 633
Nuclear power plants; currents; Irish Sea; Scotland coast; radioactivity, 471
Numerical analysis; Milford Haven Estuary; estuarine circulation; current measurements; horizontal currents; mathematical models, 337
Numerical model; non-linear equations; tidal flats; tidal friction; harmonic analysis; U.S.A. east coast; tidal estuaries, 207
Numerical model; sea-level changes; currents; models; Adriatic Sea, 481
Numerical models; tidal currents; wind stress; current measurements; simulations; wind drift currents; coastal lagoons, 623
Nursery grounds; fish mortality; Scotland Coast; population dynamics, 845
Nutrients; analysis; automatic techniques; computer program; seawater, 121
Nutrients; current measurements; estuaries; time series; Baltic Sea, 161
Nutrients, macroalgae; sea grasses; salinity variations; groundwater; coastal waters; frontal zones; lagoons, 789
Nutrients; renewal; deeps, 879
Nutrients; salt marshes; statistical analysis; South Carolina coast; synoptic data, 273
Nutrients; sand beaches; groundwater; waves; filtration, 91
Nutrients; sulfur cycles; hydrology; wetlands; Chesapeake Bay; salt marshes; interstitial water, 45
Oceanography; Fourier analysis; time-series; salinity; fish; water temperature; regression analysis; Papua New Guinea, 511
OFFICER, C. B., LYNCH, D. R., KEMP, W. M. and BOYNTON, W. R., Estimation of benthic respiration parameters from field data, 357
Oregon Coast; ichthyoplankton; distribution; abundance; environmental conditions; upwelling, 365
ORLIĆ, M., *see* KUZMIĆ, M., 481
Oscillations; Chesapeake Bay; non-tidal circulations; fluid volumes; flow profile; vertical profiles; current data; current velocity, 411

Papua New Guinea; oceanography; Fourier analysis; time-series; salinity; fish; water temperature; regression analysis, 511
PAQUIN, Y., *see* EDENBORN, H. M., 801
Partially mixed estuary; estuarine circulation; turbidity; eutrophication; Delaware Bay; chlorophyll distribution; phytoplankton, 711
Particulate matter; chlorophylls; seasonal variations; coastal waters; estuarine zones, 235
Particulate matter; estuarine sedimentation; plankton blooms; primary production; settling rates; fjords; Puget Sound; sediment traps, 859
PEARCY, W. G., *see* BRODEUR, R. D., 365
PENNOCK, J. R., Chlorophyll distributions in the Delaware Estuary: regulation by light-limitation, 711
Petroleum; hydrocarbons; sediments; chronology; Narragansett Bay; contaminant, 295
Petroleum; pollutant dispersal; sediments; Alaska Coast; fjords; hydrocarbons, 131
PHILLIPS, F. E. and FLEEGER, J. W., Meiofauna meso-scale variability in two estuarine habitats, 745
Phosphorus; estuaries; diurnal; seasonal; Australia enzymes, 567
Physical properties; chemical composition; carbohydrates; Yugoslavia Coast; estuarine sedimentation, 701
Phytoplankton; biomass; productivity; river flow; salinity; mortality; Chesapeake Bay; Virginia, 653
Phytoplankton; estuaries; variation; abundance; biomass; Chile Coast, 461
Phytoplankton; estuarine fauna; estuaries; river flow; San Francisco Bay; grazing; benthos; filter feeders, 379
Phytoplankton; partially mixed estuary; estuarine circulation; turbidity; eutrophication; Delaware Bay; chlorophyll distribution, 711
Plankton; Connecticut coast; carbon; sediment sources; isotopes; fossils, 325
Plankton blooms; primary production; settling rates; fjords; Puget Sound; sediment traps; particulate matter; estuarine sedimentation, 859
Pollutant dispersal; sediments; Alaska Coast; fjords; hydrocarbons; petroleum, 131
Population dynamics; nursery grounds; fish mortality; Scotland Coast, 845
POTTER, I. C., *see* NEL, S. A., 895
POXTON, M. G. and NASIR, N. A., The distribution and population dynamics of O-group plaice (*Pleuronectes platessa* L.) on nursery grounds in the Firth of Forth, 845
Prawns; freshwater; salinity; temperature; migration; estuaries; South Africa Coast, 313
Predation; gobies; crabs; macrofauna; meiofauna; abundance; cage culture; mud flats, 429
Pressure gradients; Nicaragua; nearshore current system; dynamic balance; wind stress; friction, 687
Primary production; settling rates; fjords; Puget Sound; sediment traps; particulate matter; estuarine sedimentation; plankton blooms, 859
Productivity; river flow; salinity; mortality; Chesapeake Bay; Virginia; phytoplankton; biomass, 653
PRUELL, R. J. and QUINN, J. G., Geochemistry of organic contaminants in Narragansett Bay sediments, 295
Puget Sound; sediment traps; particulate matter; estuarine sedimentation; plankton blooms; primary production; settling rates; fjords, 859
QASIM, S. Z., *see* VERLENCAR, X. N., 235
QUINN, J. G., *see* PRUELL, R. J., 295
QUINN, N. J. and KOJIS, B. L., Annual variation in the nocturnal nekton assemblage of a tropical estuary, 511
Radioactivity; nuclear power plants; currents; Irish Sea; Scotland Coast, 471
RAINBOW, P. S., Accumulation of Zn, Cu and Cd by crabs and barnacles, 669
RAO, K. H., *see* ANTONY, M. K., 823
READ, G. H. L., Aspects of larval, post-larval and juvenile ecology of *Macrobrachium petersi* (Hilgendorf) in the Keiskamma Estuary, South Africa, 501
READ, G. H. L., Factors affecting the distribution and abundance of *Macrobrachium petersi* (Hilgendorf) in the Keiskamma River and Estuary, South Africa, 313
Red tide; dinoflagellates; vertical migrations; coastal lagoon; Vancouver Island, 817

Red tide; toxicity; dinoflagellates; cysts; shellfish fisheries; U.S.A. east coast; Canada east coast, 401
REDDY, G. V., *see* ANTONY, M. K., 823
Regression analysis; Papua New Guinea; oceanography; fourier analysis; time-series; salinity; fish; water temperature, 511
Renewal; deeps; nutrients, 879
Respiration rates; respiratory systems; microbial activity; benthic environment; Chesapeake Bay, 357
Respiratory systems; microbial activity; benthic environment; Chesapeake Bay; respiration rates, 357
Richardson number; stratification; continental shelf; Bay of Bengal; temperature variations; coastal currents; internal waves; shear, 823
River flow; salinity; mortality; Chesapeake Bay; Virginia; phytoplankton; biomass; productivity, 653
River flow; San Francisco Bay; Grazing; benthos; filter feeders; phytoplankton; estuarine fauna; estuaries, 379
Rivers; continental shelf; New Zealand; sediments, 773
Rivers; India Coast; bromide; behaviour, 601
ROBINSON, M. G., *see* VOLTOLINA, D., 817
St. Lawrence Estuary; bacteriological oxidation; sediments; Manganese; adsorption; 801
Salinity; fish; water temperature; regression analysis; Papua New Guinea; oceanography; Fourier analysis; time-series, 511
Salinity; mortality; Chesapeake Bay; Virginia; phytoplankton; biomass; productivity; river flow, 653
Salinity; temperature; migration; estuaries; South Africa Coast; prawns; freshwater, 313
Salinity variations; groundwater; coastal waters; frontal zones; lagoons; nutrients, macroalgae; sea grasses, 789
Salt marshes; deposition; erosion; exports; *Spartina*; carbon, 757
Salt marshes; interstitial water; nutrients; sulfur cycles; hydrology; wetlands; Chesapeake Bay, 45
Salt marshes; Spartina; South Carolina Coast; water movement; interstitial water; water properties, 389
Salt marshes; statistical analysis; South Carolina coast; synoptic data; nutrients, 273
Sampler/bottom fauna; macrobenthos; surf zone; beaches; dredges, 287
San Francisco Bay; California; harmonic analysis; tides; tidal currents; Eulerian residual currents; current-meter, 57
San Francisco Bay; estuaries; sea level; currents; estuarine circulation; subtidal variations, 17
San Francisco Bay; grazing benthos; filter feeders; phytoplankton; estuarine fauna; estuaries; river flow, 379
Sand bars; longshore bar; Chesapeake Bay; Maryland; littoral processes; coastal geomorphology; beach profiles; breaking waves, 727
Sand beaches; groundwater; waves; filtration; nutrients, 91
Sandy beaches; biomass; Australia coast, 587
Scotland; birds; seasonal variations; behaviour; energy; benthic; Invertebrata; tidal flats, 75
Scotland Coast; population dynamics; nursery grounds; fish mortality, 845
Scotland Coast; radioactivity; nuclear power plants; currents; Irish Sea, 471
Sea grasses; salinity variations; groundwater; coastal waters; frontal zones; lagoons; nutrients, macroalgae, 789
Sea level; currents; estuarine circulation; subtidal variations; San Francisco Bay; estuaries, 17
Sea-level changes; currents; models; Adriatic Sea; numerical model, 481
Seasonal; Australia; enzymes phosphorus; estuaries; diurnal, 567
Seasonal variations; behaviour; energy; benthic; Invertebrata; tidal flats; Scotland; birds, 75
Seasonal variations; coastal waters; estuarine zones; particulate matter; chlorophylls, 235
Seasonal variations; storage effects; English coast; interstitial water; chemical composition; estuaries; spatial distribution, 105
Seawater; nitrates; cadmium; analysis; automatic techniques, 127
Seawater; North Sea; arsenic; tungsten; selenium; molybdenum; antimony; tellurium; vanadium; estuaries, 633

Seawater; nutrients; analysis; automatic techniques; computer program, 121
Secondary production; waste disposal; food webs; New York Bight; benthic fauna; biomass, 539
Sediment; diagenesis; trace elements; iron; Manganese; zinc; estuaries, 1
Sediment sources; isotopes; fossils; plankton; Connecticut coast; carbon, 325
Sediment traps; particulate matter; estuarine sedimentation; plankton blooms; primary production; settling rates; fjords; Puget Sound, 859
Sediments; Alaska Coast; fjords; hydrocarbons; petroleum; pollutant dispersal, 131
Sediments; chronology; Narragansett Bay; contaminants; petroleum; hydrocarbons, 295
Sediments; manganese; adsorption; St. Lawrence Estuary; bacteriological oxidation, 801
Sediments, New Zealand; nitrogen cycle; denitrification; nitrate reduction; mineralization; diffusion, 243
Sediments; rivers; continental shelf; New Zealand; 773
Sediments; sorting; waves; Ems estuary; benthic; diatoms; currents; exposure, 607
Selenium; molybdenum; antimony; tellurium; vanadium; estuaries; seawater; North Sea; arsenic; tungsten, 633
Settling rates; fjords; Puget Sound; sediment traps; particulate matter; estuarine sedimentation; plankton blooms; primary production, 859
Shaw, D. G., Hogan, T. E. and McIntosh, D. J., Hydrocarbons in the sediments of Port Valdez, Alaska: consequences of five years' permitted discharge, 131
Shear; Richardson number; stratification; continental shelf; Bay of Bengal; temperature variations; coastal currents; internal waves, 823
Shellfish fisheries; U.S.A. east coast; Canada east coast; red tide; toxicity; dinoflagellates; cysts, 401
Shells; survival; growth; copper; cadmium; *Mytilus*; Gulf of Finland, 555
Shimizu, Y., *see* Maranda, L., 401
Simulations; wind drift currents; coastal lagoons; numerical models; tidal currents; wind stress; current measurements, 623
Sinex, S. A., *see* Helz, G. R., 1
Smith, C. J. and Delaune, R. D., Recovery of added ^{15}N-labelled ammonium-N from Louisiana Gulf Coast estuarine sediment, 225
Smith, N. P., The decomposition and simulation of the longitudinal circulation in a coastal lagoon, 623
Smyth, J. C., *see* Curtis, D. J., 75
Sorting; waves; Ems estuary; benthic; diatoms; currents; exposure; sediments, 607
South Africa Coast; larvae; distribution; vertical migration; migration, 501
South Africa Coast; prawns; freshwater; salinity; temperature; migration; estuaries, 313
South Carolina coast; synoptic data; nutrients; salt marshes; statistical analysis, 273
South Carolina Coast; water movement; interstitial water; water properties; salt marshes; Spartina, 389
Spartina; carbon; salt marshes; deposition; erosion; exports, 757
Spartina; South Carolina Coast; water movement; interstitial water; water properties; salt marshes, 389
Spatial distribution; seasonal variations; storage effects; English coast; interstitial water; chemical composition; estuaries, 105
Spatial variations; meiobenthos; estuaries; mudflats, 745
Speciation; estuaries; chemical; models; Connecticut Coast; iron; distribution, 449
Speer, P. E. and Aubrey, D. G., A study of non-linear tidal propagation in shallow inlet/estuarine systems. Part II: Theory, 207
Speer, P. E., *see* Aubrey, D. G., 185
Spurrier, J. D., *see* Whiting, G. J., 273
Standing crops; Narragansett Bay; diatoms; benthic; sublittoral flora, 577
Statistical analysis; South Carolina coast; synoptic data; nutrients; salt marshes, 273
Steimle, F. W., Jr., Biomass and estimated productivity of the benthic macrofauna in the New York Bight: a stressed coastal area, 539
Storage effects; English coast; interstitial water; chemical composition; estuaries; spatial distribution; seasonal variations, 105

Stratification; continental shelf; Bay of Bengal; temperature variations; coastal currents; internal waves; shear; Richardson number, 823
Sublittoral flora; standing crops; Narragansett Bay; diatoms; benthic, 577
Subtidal variations; San Francisco Bay; estuaries; sea level; currents; estuarine circulation, 17
Sulfur cycles; hydrology; wetlands; Chesapeake Bay; salt marshes; interstitial water; nutrients, 45
SUNILA, I. and LINDSTRÖM, R., Survival, growth and shell deformities of copper- and cadmium-exposed mussels (*Mytilus edulis* L.) in brackish water, 555
Surf zone; beaches; dredges; sampler/bottom fauna, macrobenthos; 287
Survival; growth; copper; cadmium; *Mytilus*; Gulf of Finland; shells, 555
Synoptic data; nutrients; salt marshes; statistical analysis; South Carolina coast, 273
Teleosts; catfish; estuaries; growth rates; gonads; diet; estuarine fisheries; Australia West Coast, 895
Tellurium; vanadium; estuaries; seawater; North Sea; arsenic; tungsten; selenium; molybdenum; antimony, 633
Temperature; migration; estuaries; South Africa Coast; prawns, freshwater; salinity, 313
Temperature variations; coastal currents; internal waves; shear; Richardson number; stratification; continental shelf; Bay of Bengal, 823
Texas Coast; tidal inlets; morphology; equilibrium profiles; Barrier Island Coasts, 33
THOMPSON, D. B. A., *see* CURTIS, D. J., 75
Tidal currents; Eulerian residual currents; current-meter; San Francisco Bay; California; harmonic analysis; tides, 57
Tidal currents; wind stress; current measurements; simulations; wind drift currents; coastal lagoons; numerical models, 623
Tidal estuaries; numerical model; non-linear equations; tidal flats; tidal friction; harmonic analysis; U.S.A. east coast, 207
Tidal estuaries; tidal flats; tidal friction; harmonic analysis; Massachusetts coast, 185
Tidal flats; Scotland; birds; seasonal variations; behaviour; energy; benthic; Invertebrata, 75
Tidal flats; tidal friction; harmonic analysis; Massachusetts coast; tidal estuaries, 185
Tidal flats; tidal friction; harmonic analysis; U.S.A. east coast; tidal estuaries; numerical model; non-linear equations, 207
Tidal friction; harmonic analysis; Massachusetts coast; tidal estuaries; tidal flats, 185
Tidal friction; harmonic analysis; U.S.A. east coast; tidal estuaries; numerical model; non-linear equations; tidal flats, 207
Tidal inlets; morphology; equilibrium profiles; Barrier Island Coasts; Texas Coast, 33
Tides; tidal currents; Eulerian residual currents; current-meter; San Francisco Bay; California; harmonic analysis, 57
Time series; Baltic Sea; nutrients; current measurements, 161
Time-series; salinity; fish; water temperature; regression analysis; Papua New Guinea; oceanography; Fourier analysis, 511
TOLL, P., *see* WILMOT, W., 161
TONKOVIĆ, M., *see* HADŽIJA, O., 701
TORO, J. E., Annual cycle and composition of the phytoplankton in the Quempillen River Estuary, southern Chile, 461
Toxicity; dinoflagellates; cysts; shellfish fisheries; U.S.A. east coast; Canada east coast; red tide, 401
Trace elements; iron; Manganese; zinc; estuaries; sediment; diagenesis; 1
Tungsten; selenium; molybdenum; antimony; tellurium; vanadium; estuaries; seawater; North Sea; arsenic, 633
Turbidity; eutrophication; Delaware Bay; chlorophyll distribution; phytoplankton; partially mixed estuary; estuarine circulation, 711
Upwelling; Oregon Coast; ichthyoplankton; distribution; abundance; environmental conditions, 365
U.S.A. east coast; Canada east coast; red tide; toxicity; dinoflagellates; cysts; shellfish fisheries, 401
U.S.A. east coast; tidal estuaries; numerical model; non-linear equations; tidal flats; tidal friction; harmonic analysis, 207
VAN DE KREEKE, J., Stability of tidal inlets—Pass Cavallo, Texas, 33

VAN DER SLOOT, H. A., HOEDE, D., WIJKSTRA, J., DUINKER, J. C. and NOLTING, R. F., Anionic species of V, As, Se, Mo, Sb, Te and W in the Scheldt and Rhine Estuaries and the Southern Bight (North Sea), 633
Vanadium; estuaries; seawater; North Sea; arsenic; tungsten; selenium; molybdenum; antimony; tellurium, 633
Vancouver Island; red tide; dinoflagellates; vertical migrations; coastal lagoon, 817
Variation; abundance; biomass; Chile Coast; phytoplankton; estuaries, 461
VERLENCAR, X. N. and QASIM, S. Z., Particulate organic matter in the coastal and estuarine waters of Goa and its relationship with phytoplankton production, 235
Vertical migrations; coastal lagoon; Vancouver Island; red tide; dinoflagellates, 817
Vertical migration; migration; South Africa Coast; larvae; distribution, 501
Vertical profiles; current data; current velocity; oscillations; Chesapeake Bay; non-tidal circulations; fluid volumes; flow profile, 411
VIEIRA, M. E. C., Estimates of subtidal volume flux in mid-Chesapeake Bay, 411
Virginia; phytoplankton; biomass; productivity; river flow; salinity; mortality; Chesapeake Bay, 653
VOLTOLINA, D., BROWN, L. N. and ROBINSON, M. G., Vertical variations of the chlorophyll maximum during a red tide in a shallow lagoon, 817
WALTERS, R. A. and GARTNER, J. W., Subtidal sea level and current variations in the northern reach of San Francisco Bay, 17
WARWICK, R. M., *see* GEE, J. M., 429
Waste disposal; food webs; New York Bight; benthic fauna; biomass; secondary production, 539
Water movement; interstitial water; water properties; salt marshes; Spartina; South Carolina Coast, 389
Water properties; salt marshes; Spartina; South Carolina Coast; water movement; interstitial water, 389
Water temperature; regression analysis; Papua New Guinea; oceanography; Fourier analysis; time-series; salinity; fish, 511
WATSON, P. G., FRICKERS, P. E. and GOODCHILD, C. M., Spatial and seasonal variations in the chemistry of sediment interstitial waters in the Tamar Estuary, 105
Waves; Ems estuary; benthic; diatoms; currents; exposure; sediments; sorting, 607
Waves; filtration; nutrients; sand beaches; groundwater, 91
Wetlands; Chesapeake Bay; salt marshes; interstitial water; nutrients; sulfur cycles; hydrology, 45
WHITING, G. J., MCKELLAR, H. N., JR., KJERFVE, B. and SPURRIER, J. D., Sampling and computational design of nutrient flux from a southeastern U.S. saltmarsh, 273
WIEGERT, R. G., *see* CHALMERS, A. G., 757
WIJKSTRA, J., *see* VAN DER SLOOT, N. A., 633
WILMOT, W., TOLL, P. and KJERFVE, B., Nutrient transports in a Swedish estuary, 161
Wind drift currents; coastal lagoons; numerical models; tidal currents; wind stress; current measurements; simulations, 623
Wind stress; current measurements; simulations; wind drift currents; coastal lagoons; numerical models; tidal currents, 623
Wind stress; friction; pressure gradients; Nicaragua; nearshore current system; dynamic balance, 687
WOLF, P. L., *see* CHALMERS, A. G., 757
YENIGÜN, D., *see* GUNN, D. J., 257, 337
YOUNG, M., *see* MURRAY, S. P., 687
Yugoslavia Coast; estuarine sedimentation; physical properties; chemical composition; carbohydrates, 701
Zinc; copper; cadmium; crabs; barnacles; metal uptake, 669
Zinc; estuaries; sediment; diagenesis; trace elements; iron; manganese, 1
Zooplankton; community composition; abundance; distribution; bays; Copepoda; Branchiopoda; Australia South Coast, 145